## REMARKS

An excess claim fee payment letter is submitted herewith for one excess independent claim and two excess total claims.

Claims 5-8 and 14-17 and 19-32 are presently pending in the application. Claims 5-7, 14, 16, and 18 have been amended to more particularly define the invention. Claims 19-32 have been added to assure Applicant the degree of protection to which his invention entitles him. Claims 1-4, 9-13, and 18 have been cancelled in the interest of expediting prosecution.

The Office Action objected to page 26, line 23 of the specification and to claims 5 and 14 due to use of the acronym LRU, without definition. The definition "least recently used" has been added at the first usage of LRU in the specification, and that term has been inserted in place of the acronym in claims 5 and 14. Thus, these objections are overcome.

Claims 1-8 and 10-17 were rejected under 35 U.S.C. §102(e) as being anticipated by Bahl et al. (U.S. Patent No. 6,385,454). Claims 9 and 18 were rejected under 35 U.S.C. §103(a) as being unpatentable over Bahl in view of Averbuch et al. (U.S. Patent No. 5,530,693). These rejections are respectfully traversed.


## THE CLAIMED INVENTION

The claimed invention is directed to a mobile terminal and to a hand-over solving method for a mobile terminal. In an exemplary embodiment of the invention, when the mobile terminal is operating within a cell of a base station, history data of cells in which the mobile terminal has operated is stored, including an indication of whether the mobile terminal entered the cell by powering on. The stored history is searched to locate cells, other than the cell in which the mobile terminal is presently operating, in which the mobile terminal operated in the past but in which the mobile terminal did not power on. A cell in the stored

history is detected in which the mobile terminal did not power on and <u>which has the oldest</u>

<u>history</u>, and it is <u>predicted that the mobile terminal will move into the detected cell</u>.

In another exemplary embodiment of the invention, when the mobile terminal is

operating within a cell of a base station, history data of cells in which the mobile terminal has

operated is stored, including an indication of whether the mobile terminal entered the cell by

powering on. The stored history is searched to locate cells, other than the cell in which the

mobile terminal is presently operating, in which the mobile terminal operated in the past but

in which the mobile terminal did not power on. A cell in the stored history is detected in

which the mobile terminal did not power on and <u>in which the mobile terminal operated the</u>

<u>greatest number of times in the past</u>, and it is predicted that the mobile terminal will move

into the detected cell.


## THE PRIOR ART REFERENCES

### The Bahl et al. Reference

Bahl et al. discloses a system and method of controlling hand-overs of mobile

terminals. The <u>trajectory</u> of the mobile terminal is utilized to predict a cell into which the

mobile terminal is about to move.


### The Averbuch et al. Reference

Averbuch et al. discloses use of the bit error rate to determine when a hand-over

should occur.

**ARGUMENT**

With respect to independent claims 19 and 26 and their dependent claims, the claimed invention includes detecting in the stored history a cell in which the mobile terminal did not power on and which has the <u>oldest history of operation</u> of the mobile terminal, and predicting that the mobile terminal will move into the detected cell. With respect to independent claims 20 and 27, the claimed invention includes detecting in the stored history a cell in which the mobile terminal did not power on and in which the mobile terminal <u>operated the greatest number of times</u>, and predicting that the mobile terminal will move into the detected cell. Neither Bahl nor Averbuch shows or suggests such mobile terminals or such methods.

Bahl determines a cell to which a mobile terminal should be handed over from the <u>trajectory of the mobile terminal</u>. By way of example, at column 4, lines 7-17, Bahl teaches a prediction engine which tracks the <u>path</u> of the mobile terminal and compares that <u>path</u> with previous <u>routes</u> that the mobile terminal <u>has followed</u> (referred to by Bahl as "User's Mobility Patterns" or "UMPs"). At column 4, lines 17-23, Bahl teaches that if no exact match is found, the record of UMPs may be edited by adding, deleting, or changing <u>one or more cell's</u> identity in the UMP. Thus, clearly, Bahl does <u>not</u> detect in the stored history <u>a</u> cell in which the mobile terminal did not power on and which has the <u>oldest history of operation</u> of the mobile terminal, or detect in the stored history <u>a</u> cell in which the mobile terminal did not power on and in which the mobile terminal <u>operated the greatest number of times</u>.

In many other places, it is clear that Bahl determines a cell to which a mobile terminal should be handed over from the <u>trajectory</u> of the mobile terminal, and <u>not</u> from the cell having the <u>oldest history of operation</u> or the cell in which the mobile terminal <u>operated the greatest number of times</u>. See Bahl at, for example, column 8, lines 17-18, 25-39, and 53-66, column 9, lines 36-41 and 46-54, column 11, lines 42-46, and column 14, lines 11-15.

For example, column 8, lines 25-39 of Bahl read:

"For the global prediction, the prediction engine 25 first adds the predicted next cell from the local prediction to the <u>sequence of cells</u> that the mobile unit has passed through during the present connection. This <u>sequence of cells</u> is stored in a memory 31 and <u>is referred to as the user's actual path or "UAP."</u> The UAP is compared to stored cell <u>sequences</u> that are records of the <u>routes</u> previously taken by the mobile (called hereinafter the "user's mobility patterns" or "UMPs"). The UMPs are stored in a user profile memory 33, which is also part of the processing unit and system memory 19 illustrated in FIG. 2. When the prediction engine 25 identifies a match between the UAP and one of the stored UMPS using criteria described hereinafter, the engine selects the matching UMP as the predicted present <u>route</u> of the mobile unit MU and provides that UMP as the output 25a."

Additionally, column 8, lines 57-60 of Bahl read:

"When the UAP is different from a stored UMP by <u>more than a threshold number of cells</u> and when the mobile unit has available capacity in memory 33, the UAP is stored into the mobile's user profile memory 33 as a new UMP."

Thus, Bahl is concerned with tracking a <u>multi-cell path</u> of the mobile terminal in order to predict a cell into which the mobile terminal will move next. This does <u>not</u> anticipate or suggest the claimed invention. The claimed invention is <u>less complex</u> than Bahl's system, and so <u>less costly</u> and <u>less prone to malfunction</u>.

Averbuch discloses operation leading to and subsequent to a hand-over, but does <u>not</u> teach any method for determining a cell to which a mobile terminal should be handed over.

It is accordingly submitted that the claims distinguish patentably from the references and are allowable.


## CONCLUSION

In view of the foregoing, Applicant submits that claims 5-8, 14-17 and 19-32, <u>all</u> the claims presently pending in the application, are <u>patentably distinct</u> over the prior art of record
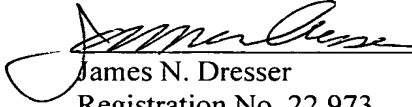
and are <u>allowable</u>, and that the application is in <u>condition for allowance</u>. Such action would be appreciated.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned attorney at the local telephone number listed below to discuss any other changes deemed necessary for allowance in a telephonic or personal interview.

To the extent necessary, Applicant petitions for an extension of time under 37 CFR §1.136. The Commissioner is authorized to charge any deficiency in fees, including extension of time fees, or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

Date: _Ymuary / 8_, 2006

James N. Dresser
Registration No. 22,973

**MCGINN INTELLECTUAL PROPERTY
LAW GROUP, PLLC**
8321 Old Courthouse Road, Suite 200
Vienna, VA 22182-3817
(703) 761-4100
**Customer No. 21254**